

CLAIMS

WHAT IS CLAIMED IS:

1 *Sub 7*
2 *305/51*
3 *all claims*
4
5 1. A device comprising:
6 a fiber optic bundle having a termination block;
an array waveguide having channels internally, the array waveguide
positioned adjacent to the termination block; and
two pins each partially extending into both the termination block and the
array waveguide.

1 2. The device of claim 1, wherein the termination block comprises two retainers
2 having etched grooves in them, and the two pins extend into holes formed by placing
3 the two etched substrates together.

1 *Sub 7*
2 3. The device of claim 2, wherein the array waveguide has two holes formed by
an etch process.

1 4. The device of claim 2 further comprising
2 a gel dispensed between the termination block and the array waveguide.

1 5. The device of claim 4, wherein the gel has an index of refraction substantially
2 similar to that of the channels of the array waveguide.

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1 6. A method of aligning a fiber optic bundle with an array waveguide comprising:
2 inserting pins into holes formed in both the fiber optic bundle and the array
3 waveguide; and
4 pressing the fiber optic bundle and the array waveguide together so that the
5 pins extend into both the fiber optic bundle and the array waveguide.

1 7. The method of claim 6 further comprising:
2 *h* finely aligning optical fibers in the fiber optic bundle with channels of the
3 array waveguide.

1 8. The method of claim 7 further comprising:
2 applying an epoxy to bond the fiber optic bundle to the array waveguide.

1 9. The method of claim 8 further comprising:
2 dispensing an optical gel between the fiber optic bundle and the array
3 waveguide.

1 10. The method of claim 9, wherein the optical gel has an index of refraction
2 substantially similar to channels in the array waveguide.

1 11. The method of claim 10 further comprising:
2 curing the epoxy while maintaining alignment between the optical fibers and
3 the channels of the array waveguide.

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1 12. A method of aligning a fiber optic bundle with an array waveguide
2 comprising:

3 inserting two pins into holes formed in an end of the fiber optic bundle;
4 inserting opposite ends of the two pins into the array waveguide; and
5 pressing the fiber optic bundle and the array waveguide together.

1 13. The method of claim 12 further comprising:

2 adjusting the fiber optic bundle and the array waveguide to improve photonic
3 coupling between optical fibers of the fiber optic bundle and channels
4 of the array waveguide.

1 14. The method of claim 13 further comprising:

2 dispensing an epoxy between the fiber optic bundle and the array waveguide.

1 15. The method of claim 14, wherein the dispensing the epoxy is performed by
2 dispensing an epoxy having an index of refraction substantially similar to the channels
3 of the array waveguide.

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